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These are precautions against fire from the outside. It is wise also to take measures to retard the progress of a fire should it get started within a building. Steel columns must be fireproofed or they will buckle from the heat. There are many column failures in San Francisco from the lack of proper fireproofing, and for this purpose nothing proved superior to concrete. Fire-proof partitions are necessary to prevent the spread of fire. As a ship is divided into a series of water-tight compartments, so a building may be divided into a series of fire-proof compartments. For this purpose nothing gave more satisfactory results than reinforced concrete used for floors and partitions. It may not always be feasible to use many such partitions in a library building, but the stack at least can be so separated and the entrances to it can easily be equipped with automatic metal covered doors. In large libraries it would be wise to subdivide the stack likewise into fire proof compartments. Reinforced concrete could be used for every second or third stack floor, and in very large libraries vertical partitions of similar material would lessen the chances of total destruction in the event of a conflagration.

Another precaution which should not be neglected is the provision of an independent water supply. There was evidence in the San Francisco fire of a temperature at certain points of about 2200 degrees Fahr., hence there is strong liability to ignition within a building even without direct access of the flames. But it may be possible with water available and a few men at hand to extinguish such fires in their incipency. The writer knows of a dwelling house that was saved by having at hand a few siphon bottles of soda water when no other water was available. Where there is a possibility of earthquakes tanks on the roof are undesirable. There should be a well with a pump operated by some power installed on the premises. In the event of a conflagration power from an outside source is to be relied on.

These are some of the lessons driven home by the San Francisco experience.

Respectfully submitted

GEORGE T. CLARK.

The PRESIDENT: We now resume the program as set down for the day, and take up the second of our two chief topics, the use of books. Many other papers before this have had reference to this, but the papers which are to follow are expressly directed to this end, and I have great pleas-

ure in calling first upon Dr Edward J. Nolan, of the Academy of natural sciences in Philadelphia, to tell us about the use of books on natural history.

THE USE OF NATURAL HISTORY BOOKS

The specialist in science should have an intimate knowledge of the books required by him—the literature of his specialty, otherwise he is in constant danger of doing that again which has been done well enough already. The business of the librarian is to secure, arrange and catalog, in other words, place within convenient reach and in best shape to be used, the books which may be useful. He need not know much about their contents, but he must know something there anent, for if the library appropriation be not ample (and who ever heard of its being so) he must exercise his judgment in making up his purchase list so that even if the advice of the specialist be respected, the librarian should be able to select the most essential from the titles submitted. Hence specialties in librarianship are found to be productive of good results.

The division of great libraries into special collections is probably the solution of the ever increasing difficulties of library administration, but while the lawyer, the doctor, the priest, the historian, the engineer, the manufacturer, the physicist and the naturalist may thus have readiest access to what they most urgently need, all departments of knowledge are so related and such a vast amount of literature remains under general heads that the general librarian, whether a bibliophile or a business man, is not likely to be put out of commission. In the meantime the classified catalog is invaluable in securing the desired end—that is the specialists' easy access to the books that concern him.

It is true that in many of our great libraries, the larger divisions are administered by properly qualified sub-librarians, but the good to be secured by the separate housing and care of such collections is enforced by the success of such libraries as

those of colleges of physicians, historical societies, theological seminaries, law associations and scientific institutions, as well as by the practical necessity of duplicating portions of general libraries of universities for the convenient provision of special departments.

The libraries of societies are, as a rule, determined by the character of the membership. For example, while natural science embraces the study of all visible nature and of governing forces, the members of an Academy of natural sciences may consist almost entirely of naturalists as distinguished from physicists, its library embracing consequently but a small percentage of books belonging to the division of physics, for the simple reason that the latter are not called for. The distinction between the two classes of students of science is undoubtedly an arbitrary one, but the naturalist may be defined as one who makes visible nature the object of his investigations, while the physicist concerns himself with forces and laws, their manifestations, effects and applications. So vast is the sphere of natural knowledge that we rarely refer to an individual now as a naturalist or a physicist, but at once assign him to his specialty. We have zoologists, botanists, geologists, mineralogists, chemists, (inorganic and organic), metallurgists, electricians, etc., but even these terms are too general and we talk of psychologists, bacteriologists, morphologists, embryologists, cytologists, biometricians, thermatologists, protistologists, ontologists and even a more minute division of specialties with appropriate terminology, to merely look up the meanings of which, leads one to the threshold of the sciences indicated by the appellations. As all these subjects, and many others, are branches of natural history, it is indeed a very rash or a very vain man who now calls himself a naturalist.

The students of many of these specialties have found it to their advantage to form themselves into societies, some with a local habitation as well as a name, others holding periodical meetings either independent-

ly or in conjunction with the sessions of the American association for the advancement of science, the result being that so much interest is taken from meetings of general societies as to make it in some cases scarcely worth while to hold them, so that, in the language of a recent writer "now that the daughters have grown the mother may die."

It cannot be denied, however, that such close devotion to a limited specialty has been productive of fine results in science, witness such superb monographs as Bashford Dean's "Chimeroid fishes and their development" and Prof. Tower's "Evolution of chrysomelid beetles or potato bugs," recently published by the Carnegie institute and our own Dr Peckham's work on the instincts and habits of the solitary wasps, a superb example of untiring, minute and purposeful study recorded with a literary art which makes it almost as interesting as a work of fiction.

The wide difference between modern biology and the descriptive natural history of half a century ago can be appreciated almost without reading a line, if the illustrations of the scientific literature of the two periods be glanced at. The earlier journals contain figures of animals and plants and macroanatomical plates, while the current issues are filled with refined illustrations of minute structure, studies in cytology and the secrets laid bare by the microtome. It is not now worth while to depict a mouse in habit as he lived, even though regarded as an undescribed form, but let the little animal be sliced into a mile or two of thin section and he becomes a contribution to biological knowledge, the brilliancy of the result depending on the length of the ribbon.

Naturalists may be divided into two great groups—the systematists and the biologists. In practice their provinces have no strictly defined boundaries, for while the worker in classification and nomenclature is not seldom entirely ignorant of the life-history of the organic forms studied by him, the biologist is generally informed as to the position in nature of his material.

In a general way it may be stated that the natural history literature of the pre-Linnean era has now merely an historical or bibliographical interest and is rarely consulted in connection with living problems of biology or for the determination of forms. The recently published "Bibliography of early natural history," issued by the British Museum as No. 1 of the "Special guides," contains references to many of the more interesting and useful of these issues, while No. 2 of the same series supplies a bibliography of the classification of plants.

Much of the most important original research is reported to scientific societies and issued in their Proceedings and Transactions. In fact the one essential of a living scientific society is its publications, by means of which it makes its existence known to the rest of the world and through which it fulfils the primary object of its formation, to add to the sum total of human knowledge. A society may be without a museum, it may have no library, it is quite conceivable that it may not hold meetings, but if it fittingly makes public the results of original investigation secured by its own members or those not directly connected with it, there is still good reason for its existence in the discreet administration of its Publication fund.

This in no way lessens the value of the numerous proprietary scientific journals to which the working naturalist must have access. Every specialty has its organ; many have more than one; the interest in some cases being so narrow that it is amazing how they can find support. To all such journals as well as to the publications of societies, recourse must be had for the material composing the most reliable monographs and text-books, and to all of these the student must have access if he would avoid a repetition of labor.

It is evident that, unassisted, no one can keep abreast of this flood of literature constantly flowing forth from laboratory and printing press. The task would be hopeless in the absence of indexes, guides and keys. Fortunately of these there are many.

The bibliography of all the sciences is elaborately classified in the new "International catalogue of scientific literature," the publication of which was begun under the auspices of the Royal society of London in 1903. It is issued both in card and book form. While it is a valuable aid it still exhibits the imperfections of immaturity, but will no doubt improve as experience is acquired.

In the extensive field of zoology the most important bibliographic assistance is given by the Concilium bibliographicum, begun in Zurich by Dr H. H. Field in 1896. The work has steadily increased in efficiency and completeness until at the present time it supplies all that can be reasonably demanded in its province. The classification, thought out in a scholarly manner, is complete and minutely subdivided under an elaborate system, so that it is possible to quickly ascertain the titles relating to any given zoological topic during the last ten years. The titles are published separately on cards of the standard library size with ample cross-references and can be easily arranged according to catch-numbers and other aids. Specialists can obtain the cards belonging to their own subjects. Fortunately for those unable to purchase the cards or unwilling to assume the no light task of keeping them in order, the entire output is printed as an appendix to the current numbers of the "Zoologischer Anzeiger."

The publication of the "Zoological record" was begun in 1864 and was published under the auspices of the Zoological society of London. It was divided systematically into several sections which may be secured separately. They are of very unequal completeness, according to the ability and industry of the several compilers. It is temporarily, at least, absorbed by the "International catalogue of scientific literature," a provisional amalgamation for a period of five years having been announced in the preface to the last volume of the "Record." At the end of five years the Zoological society may resume its independent control if the union be not a success.

In the preparation of scientific bibliographies we are under the heaviest indebtedness to the Germans, who not only do more of such work than the rest of the world combined but are unrivalled for thoroughness and accuracy.

The "Zoologischer Anzeiger" is a most satisfactory illustration of the truth of this assertion. Begun in 1878 under the able editorship of Victor Carus it is supplied with annual and decennial indexes. In 1896 it was combined with the Concilium bibliographicum.

Owing to the admirable custom which arose in Germany and which has been generally adopted elsewhere, of supplementing important communications with full lists of related bibliography, the student is often called on to consult only a few of the most recent papers, to be in possession of a fairly complete list of titles relating to his subject. Such lists can, of course, be enlarged and completed from time to time by reference to the general bibliographies already alluded to, and in the case of biological and morphological subjects to the "Anatomischer Anzeiger," edited by Prof. Bardeleben, and published in Jena since 1886, the "Zoologischer Jahresbericht," begun under the auspices of the Zoological station at Naples in 1879, and "L'année biologique," edited by Prof. Delage since 1895.

Annual reviews of many of the specialties are also within reach, a brilliant example being the "Ergebnisse der Anatomie und Entwicklungsgeschichte" of Merkel and Bonnet the last (XV) volume of which, covering the subjects for 1905, is a splendid work of 1000 pages the separate articles being frequently provided with copious bibliographies.

Other periodicals such as the "Journal of the Royal microscopical society," the "Zoologisches Centralblatt," and Schwalbe's "Jahresbericht für Anatomie und Entwicklungsgeschichte" are largely devoted to abstracts of papers appearing elsewhere.

Botanists depend on Just's "Botanischer Jahresbericht," begun in 1873, of which 33 volumes have been published, Engler's

"Botanische Jahrbücher" appearing since 1881, the "Botanisches Centralblatt" since 1880 and the recently announced "Progressus rei Botanicae."

Very full abstracts of contributions to scientific microscopy are given in the "Zeitschrift für wissenschaftlichen Mikroskopie" while the needs of the geologist and mineralogist are provided for by the "Neues Jahrbuch für Mineralogie, Geologie und Paleontologie" begun in 1830 and the "Geologischer Centralblatt" since 1901.

Then there is the "Centralblatt für Bakteriologie" covering that branch of science which has within recent years assumed such importance. Satisfactory lists of papers on cryptogamic botany with extended notices of their scope and character are given in "Heudwegia" and other specialties are in like manner epitomized and indexed.

It must not be supposed, however, that the periodicals, although of first importance, contain all that is required by the naturalist. Many of the text-books published in Berlin, Leipzig, Paris, London and elsewhere are prepared by men of unquestionable authority and are indispensable to those who wish to keep abreast of scientific investigation. Many of these text-books are provided with ample bibliographies which alone are often sufficient to supply the specialist with all he needs. Entering on a new line of investigation, he must of course consult the latest monographs on the subject, and of these he can gain a knowledge by reference to the records and reviews already referred to, and to the larger systematic text-books. First among these in zoology is Bronn's "Klassen und Ordnungen des Thierreichs" and the monumental "Thierreich" of the German Zoological society. The copious references in those works can be relied on by the zoological student for his bibliography even though he have not access to the periodical records.

A like service is rendered the botanists by Engler and Pratts' "Naturlichen Pflanzenfamilien", De Candolle's "Prodromus" and Engler's "Pflanzenreich."

The "Index Kewensis," an enumeration of the genera and species of flowering plants, begun under the auspices of the Kew Gardens in 1893, is indispensable to the phanerogamic botanist in determining questions of synonymy and places of publication, while Gray's text-books, Britton and Brown's "Illustrated flora of the U. S.," "Canada and the British Possessions" and the monographs of separate families of the American flora, prepared for the New York botanical garden by competent botanists, are important in connection with the study of North American botany.

In geology and paleontology, in addition to numerous text-books, there are several series of monographs, such as the "Paleontographica," of which 52 volumes have appeared since 1851, the "Beiträge zur Palaeontologie und Geologie Oesterreich Ungarns," begun in 1882, the "Geologische und paleontologische Abhandlungen," 10 vols., and the superb series of the Paleontological society of London, dating back to 1830.

The publications of the several national geological surveys, among which in extent and value the output of the United States geological survey easily holds first rank are, of course, indispensable to the student of geology.

Fine monographs are also published in the serials "Botanica Zoologica" and in the superb "Fauna und Flora des Golfes von Neapel," issued by the Naples zoological station.

The catalogs of the British Museum, that of the birds alone numbering 27 volumes, are of prime importance in systematic work.

Conchology is specially rich in great monographs, such as Tryon's "Manual of conchology", Reeves' "Conchologia Iconica" and Kuster's "Systematisches Conchylien Cabinet." Systematic work on the mollusca cannot be satisfactorily pursued without them.

The official records of explorations and voyages, of which the reports of the Challenger expedition in 50 volumes is the

most extensive and important, must be at the service of the student.

It is the practice of many students to enter the titles which specially concern them on cards, properly provided with cross references and notes., If he have access to a living library such cards are easily kept up to date, thus performing for himself the work of the Concilium bibliographicum and securing a more immediate and intimate knowledge of the progress of his specialty than would otherwise be possible.

Many titles of less important older works, not referred to in later monographs and covering the period from 1700 to the issue of the later bibliographies will be found in Engelmann's "Bibliotheca Historica Naturalis," 1846; Carus and Engelmann's "Bibliotheca Zoologica," 1860; Taschenberg's "Bibliotheca Zoologica," 1887-1905, the five volumes of which cover the period for zoology and paleontology from 1861 to 1880. The two volumes of the "Catalogue of scientific papers" compiled by the Royal society, with its supplements, is in constant use and is invaluable in tracing sources and dates of publication when the author's name is known for communications published since 1800. It is much to be regretted that this useful and easily consulted bibliography is not to be continued, being superseded by the "International catalogue."

Greater demands are made on the systematist for a thorough knowledge of the literature of his subject than upon the morphologist, whose work is less likely to depend for its value on that which has already been accomplished. In systematic work a correct record of dates is of much importance in establishing priority, and, therefore, the time of publication should be carefully indicated. So far is this true that in one instance at least, the author printed on his papers to the hour and minute the time of day they were supposed to have been issued, and some years ago, during a fierce struggle for priority in paleontological work, the description of a fossil vertebrate was telegraphed from the

field to a learned society in Philadelphia, with the result that the communication, when published, had almost as many errors as words.

Formerly the date of presentation of a memoir to a society even in the form of a sealed package was held to secure for the author priority of discovery of whatever might be claimed therein, but now the universal custom is to take the actual date of issue of the memoir as alone furnishing data for the determination of priority.

To aid the student in his laudable desire to be accurate in this matter, it is therefore most important that the librarian should be careful to preserve the dated covers of all periodicals issued in numbers covering twelve months or a longer period of time, when, as frequently occurs, the bound volume contains no indication of the division into parts. The covers should either be left in place even to the detriment of the appearance of the book, or, as is usually all that is required, they may be bound in at the back, the tables of contents being sufficient indication of the division of the continuous text. Although curious indifference is often manifested by editors, authors and publishing committees to this important subject of dates, the neglect is not as prevalent as formerly and the scrupulous searcher for synonyms is generally at no loss for his data. In many cases the dates of publication are recorded on separate issues of papers as in some of the government departments, the New York museum of natural history and other publishing concerns. These dates are presumably those of delivery from the press and are not always to be relied on, as the publication is frequently distributed days or even weeks later, although it must be acknowledged that in most cases a reasonable degree of promptness in distribution has been secured. The practice of the Academy of natural sciences of Philadelphia in the case of its Proceedings, it is believed, is the most reliable. A certain number of copies of each signature is mailed to corresponding societies and reviewing journals. The dates of mailing

are recorded by the editor and his official certificate is printed on the back of the title page when the volume is completed.

Students working in connection with this society are given an opportunity each week to compile their bibliographies. The accessions record was formerly prepared and the accumulation of books placed on the library tables for inspection at the weekly meetings. Although the sessions are now held less frequently, the old practice is continued and the workers have access to the recent literature for 48 hours before it is distributed to the several sections of the library.

As a supplement to this very cursory treatment of the use of books on natural history, something might be said of books that are of little or no use and those, such as the majority of huge illustrated folios, which are much more ornamental than useful. It will be noticed, also, that nothing has been said of the so-called Nature study books with which the market is now so well provided. In the majority of cases such works are of no importance in a library administered for the use of serious students of science and merely take up valuable room. They are in place in the more popular collections of the public library. The best that can be said of most of them is that they are no more perversions of science than are historical novels of past events and society romances of existing conditions.

It will be evident that no attempt has been made to deal exhaustively with the subject treated. To do so would be to prepare a catalogue raisonnée of a natural history library which would be neither desirable nor in the time allotted to the author, practicable. An attempt has merely been made to indicate to those not familiar with the specialties of the naturalist a few of the bibliographical aids to which he may have recourse in the conscientious performance of his work.

Mr C. J. BARR of The John Crerar library then read a paper on

SOME BIBLIOGRAPHICAL AIDS TO THE USE OF THE CURRENT LIT- ERATURE OF SCIENCE

That classic of American library literature, the Bureau of education report on the "Public libraries of the United States," published in 1876, includes a summary of the available literature of science in this country by Professor Theodore Gill of the Smithsonian institution. This account can not fail to enlist the interest of librarians, as it throws into sharp contrast the conditions obtaining in 1876 and those of to-day. The growth has been little short of marvelous.

In summarizing the facilities for scientific research Professor Gill mentions briefly the libraries of Washington, Philadelphia, Baltimore, New York, New Haven, and Boston and vicinity. For the scientific student of that time the rest of the United States was apparently a barren waste, save for an occasional scientific society or college library. What was true of pure science was even more true of applied. Since '76 has come the great development of the industrial resources of the country on a scientific basis. Before that time the gifts of a bountiful Nature had been found so lavish that their adaptation to man's needs by economic processes had hardly occurred to manufacturers and engineers. The literature of these subjects was meagre as compared with to-day's. And in the development that has gone on during these forty years the South and the West have not lagged behind; there as well as in the East the scientist and the engineer and libraries ready to meet their needs.

With the growth in the literature of science has gone hand in hand necessarily a growth in the tools for its use. Of the making of indexes there is no end. A writer in the columns of the Contributor's club in the May issue of the "Atlantic" comments facetiously on "that monument of patience and industry," the Index of periodical literature, as "a yearly record of the rise and fall of fads." However, he finds "consolation in the observation that the best and most prolific writers scarcely

average one article a month in the best magazines." This is indeed a hopeful bit of statistics, if authentic.

It is impossible within the limits of the present paper to list even a fractional part of the bibliographical tools essential to successful reference work in science. Brief consideration will be given to a few of the recent indexes of serial publications.

The paper by Professor Gill previously referred to, includes a list of valuable aids to scientific research, a considerable number of which still continue publication. Among these are the numerous Jahrbücher, epitomes of the year's progress in their respective sciences. There was in '76 no cooperative scheme for indexing the literature of science comparable with the "International catalogue" of to-day. This has already proved its worth and when it shall have attained more nearly to its ideal, promises to become the *ne plus ultra* in its field. The plan and scope of this work have been heretofore described in some detail at these conferences, so it seems unnecessary to dwell upon them now. Suffice it to suggest some respects in which improvement is vital to the highest usefulness of the work.

In the first place it is much to be lamented that South Africa is not represented, and in consequence the valuable literature of geology and mining emanating from that quarter is hardly accessible through any medium, unless it be through Friedlander's "Naturae novitates,"—which by the way repeatedly proves a friend in need with its excellent annual index to the monthly issues. As to promptness of publication of the "International catalogue," most of the volumes of the fourth annual issue covering the seventeen sciences, have now been received. The first annual issue covered mainly the literature of 1901 and we judge the intention to have been that each volume should index the literature of a calendar year. If so, in this respect the undertaking has fallen woefully short of its intention. The introduction to the fourth volume of physics says: "The literature indexed is mainly that of 1903 and

1904 but includes those portions of the literature of 1901 and 1902 in regard to which the index slips were received too late for inclusion in the previous volumes. A few entries are dated 1905." This failure to draw more sharply the line of distinction between the successive volumes can but prove a serious short-coming. Each year's record should be as complete as it is possible to make it by the most rigid system of administration, and thereby ease of consultation will result. The present deficiency in this regard is doubtless due to the delays in the work of the regional bureaus rather than of the central office. It would appear that the bureaus transmit their records to the central office on a given date, irrespective of its completeness. Thus it comes that part of volume 64 of the Royal astronomical society Monthly notices is indexed in the third, and part in the fourth annual issue on astronomy. Such cases are puzzling and annoying. In the case of the material furnished by the Smithsonian institution, the delay is no doubt due to insufficient funds and consequent lack of clerical force to cover the field promptly. The importance of the undertaking certainly calls for recognition by Congress in the form of an appropriation that will insure the most satisfactory results. It is subject for congratulation that the international convention saw its way to continue the catalog for a second term of five years. The period of experiment is past, the regional bureaus should be equipped to do prompt, accurate and complete work, and there should be provision for the permanent continuance of the catalog.

It would seem a sin of omission to pass unnoticed the two forerunners of the "International catalogue," namely Reuss' "Repertorium commentationum," a general index to periodical and society publications previous to 1800, a monument of scholarly and exact work; and the Royal society's "Catalogue of scientific papers," covering the nineteenth century literature. A less known work of great value is Dryander's catalog of the library of Joseph Banks.

Proceeding to a consideration of the tools in some of the special sciences; "Science abstracts" is a concise and practical monthly review and index to the literature of physics and electrical engineering appearing in 200 periodical and society publications. Its tenth volume is now current. Its arrangement is convenient and its signed abstracts are especially useful to persons without facility in the use of French and German. It may be added that the index of physics includes numerous references of interest to students of astronomy.

It is hardly within the scope of this paper to consider the biological sciences but it seems fitting to call attention in passing to the so-called Zurich catalog or card index issued by the Concilium bibliographicum in Zurich. It is well to keep in mind the breadth of its scope, including as it does paleontology, biological microscopy, zoology and anatomy. Its promoters have in contemplation the inclusion of botany and possibly other sciences. (Started in 1896, the index now contains approximately 200,000 cards). Its value lies not so much in the frequency of its use as in the fact that by its closely classified analytical work it furnishes references to topics not readily found elsewhere.

Passing on to the applied sciences, the Engineering index is doubtless the most familiar and useful tool for American libraries. It indexes some 250 periodicals, of which about 75 are in foreign languages. Volume four covers the literature of 1900 to 1905 and contains more than 50,000 entries. It would add materially to the ease of its use if volume numbers as well as dates were given in its references. Its title-page announces the intention of the publishers to issue volumes annually hereafter and it is a matter for rejoicing that this announcement is apparently to be lived up to. The volume for 1906 is advertised in the "Engineering magazine" for May. The annual volume will probably obviate the necessity of cutting and mounting the monthly issues of the index

which appear with the "Engineering magazine."

A new periodical, entitled "Technical literature," began publication in New York in January of this year; it bears the sub-title: "a monthly review of technical publications." It indexes about 300 periodicals. It is in the main much like the Engineering index, but it includes in addition a key to the technicality of the articles by grading them A, B, and C; also a book department and a list of new trade catalogs and pamphlets. It would seem somewhat premature to judge the value of this new publication from four or five issues; while it promises well, it is hardly likely to supercede those of longer standing, especially a work of such excellence as the "Repertorium der technischen Journal-literatur", issued by the German patent office. This set began publication in 1881, and its first volumes indexed the literature from 1854 on. Its forerunner, a work of fundamental importance bearing a similar title, was edited by Dr Schubarth and covered the literature of 1823 to 1853. The "Repertorium" is now issued in an annual volume of 800 or more pages, indexing some 400 periodicals in all languages. It is difficult to overestimate the value of this tool for students both of pure and of applied science, fully indexed as it is in three languages. It shows the characteristic German thoroughness and, in consequence of this and of its breadth of scope, is somewhat slow in issuing from the press.

The effort to use the bibliographical part of the Brussels monthly periodical entitled "Revue de l'ingenieur et index technique" is a somewhat trying experience for one who can not possess his soul in patience. The volumes lack title-page and index and the references are arranged under an expansion of the Decimal classification. They are issued also in card form and are doubtless thus more convenient for use.

The work of the Department of agriculture in indexing its publications continues to maintain its standard of ex-

cellence. The cards, which have been printed and distributed by the Library of Congress for a year back, are obtainable at reasonable rates with subject headings already added at the top for secondary entries, so that the actual work necessary to make available the extraordinarily useful material in this department's publications is reduced to the minimum.

The subject index of agricultural experiment station literature issued in card form by the central office in Washington seems less satisfactory from the librarian's point of view. In spite of some inconvenience from lack of uniformity in the subject headings used with its classed arrangement, the index is nevertheless indispensable to the satisfactory use of these bulletins, which like those of the department contain a wealth of material. The cards are usually received in a single shipment each year.

The American institute of architects is rendering a service of considerable importance to architects and to libraries in the publication of its quarterly bulletin, begun in 1900. Some alterations in the make-up of the bulletin would materially facilitate its use for references purposes. Something less than half of each issue is taken up with matter in no way related to the bibliography. The volumes lack general title-page and index and the references in each issue are grouped under broad and vague subject headings; for example, the heading "Historical" serves as the caption for such articles as the following:

Houses with a history.

American renaissance steeples.

Art of the American Indian.

The periodicals indexed are confined exclusively to American and English.

The writer disclaims any pretence of having covered exhaustively or adequately even the current bibliography of science and its applications. He can only hope that he may have given utterance to some suggestions that may lead those engaged in reference work to avail themselves more fully of the indexes at their disposal.

The secretary then reported the action of the Council on the proposed amendments to the Constitution (see Council transactions.)

The PRESIDENT: The Program committee has assigned two hours for the Report of the Committee on public documents, and for the general discussion which so important a subject should call out. Mr E. H. Anderson, first vice-president of the Association, will now take the chair and this subject will at once be taken up.

Mr Anderson thereupon took the chair, and Miss ADELAIDE R. HASSE of the New York public library presented the

REPORT OF THE COMMITTEE ON PUBLIC DOCUMENTS

In making this year's report to you the Committee on Public documents has taken the liberty of deviating from the conventional nature of a report, in order, more particularly, to take advantage of the opportunity afforded by your Program committee.

This opportunity of being recognized in general session is one now granted to the subject of public documents for the first time by the Association whose 31st anniversary we are celebrating. It is gratifying to be able to announce to you that on this occasion the authorities having in charge the printing and the distribution of documents, viz. the Public Printer and the Superintendent of documents are with us, and will do us the honor to address us.

While librarians are, of course, interested in the way in which public documents are printed, I do not think we would know enough about that to worry us, if the present system of distribution had not been devised. That system has had the effect of making the document collection an appreciable asset in 500 different libraries throughout the Union. Instead of being a convertible asset, it is in a great many cases, a white elephant. These two facts, viz. the indiscriminate distribution of a public grant and the failure of the grantee

to convert the asset into a negotiable factor, have brought about what may, without exaggeration, be termed the present crisis.

The system of depository distribution of public documents is, considering the rapid advance in other branches of library economy an ancient one. It is seventeen years the senior of this Association, and is itself the outgrowth of a resolution passed as long ago as 1828. A resolution of that year provided for the distribution of certain documents by the librarian of Congress. In 1844 a joint resolution was passed which transferred this duty to the Department of state, and in 1857 a resolution transferred the distribution to the Secretary of the interior. Up to this time the distribution had been made by these officials without congressional designation. That is, they made the assignments as their several judgments dictated. In 1858 a joint resolution provided that the Secretary of the interior should make the distribution upon designation to him by congressmen and delegates of the territories, and, by the printing law of the following year, viz. 1,859 senators were added to the designators. That law, the law of 1859, remained in force until superseded by the law of 1895.

A survey of the records has led to the assumption that the original motive of this depository distribution was an amiable desire legitimately to benefit struggling and worthy institutions. There was at the time of its inception no organized labor interest to cause an inflated demand for these books. It may even be doubted whether the perpetuity of the scheme entered into the consideration of the benevolent gentlemen who promoted it. Certain it is, that the project was not stamped with permanence until, by the resolutions of 1858 and 1859, it was based on congressional designation. So soon as this change took place the basis became one of population.

Public documents are used almost solely by specialists in some one of the natural, technical or historical sciences.